

REMARKS

Applicants respectfully request reconsideration of the above referenced patent application in view of the amendments and remarks set forth herein, and respectfully request that the Examiner withdraw all rejections. Claims 1, 2, 4, 7, 10, 15 and 20 have been amended. No claims have been canceled. No claims have been added. Thus, claims 1-23 are pending.

35 U.S.C. §102 Rejections

35 U.S.C. §102(e) Rejection over *Waibel et al.*

The Final Office Action rejects claims 1-23 under 35 U.S.C. §102(e) as being anticipated by *Waibel et al.*, USPN 6,324,510 (hereinafter “*Waibel*”). A claim is anticipated only if each and every claim element is found, either expressly or inherently described, in a single prior art reference, wherein the identical invention is shown in as complete detail as is contained in the claim. *See* M.P.E.P. §2131. The Final Office Action alleges that *Waibel* discloses, *inter alia*, merging at least one node of an acoustical model with a parent node of the at least one node, the merging based on a subset of a vocabulary which is used in a given task. For at least the following reasons, Applicants traverse the above rejection.

Without agreeing as to the rejections in the Final Office Action, and in order to advance the claims to allowance, Applicants amend the claims herein to further distinguish the claims from *Waibel*. The claim amendments are supported in the original disclosure at least by the discussion of FIGS. 3A-3D and the discussion thereof starting on page 6, line 12 of the specification. Applicants respectfully submit that each of the above rejected claims is not anticipated by *Waibel*, based at least on the failure of the reference to teach (emphasis added):

“...merges at least one node...with a **parent node** of the at least one node based on **whether the at least one node represents a subset of the vocabulary** which is used in a given task, wherein the merging occurs **independent of whether the parent node** of the at least one node **represents a subset of the vocabulary** which is used in the given task;...”

as variously recited in current independent claims 1, 4, 7, 10, 15, and 20.

In rejecting the above claims, the Final Office Action (page 2, item 4) variously relies on *Waibel*, FIGS. 4A-4D, 5A-5D and col. 6 line 27 to col. 7 line 21 as allegedly disclosing merging at least one node of an acoustical model with a parent node of the at least one node, the merging based on a subset of a vocabulary which is used in a given task. The relied-upon passages from *Waibel* discuss structural adaptation for a new, unseen domain of a hierarchy of neural networks (HNN) which has been constructed and trained on a domain exhibiting sufficiently rich diversity in phonetic context to provide a basis for such an adaptation.

As disclosed in *Waibel*, this structural adaptation of the baseline HNN for the new, smaller domain includes **removing** all nodes that receive **less than a predetermined amount of adaptation data**, creating **new leaf nodes** in place of the **root nodes** of pruned subtrees, and **merging leaf nodes** of pruned subtrees, wherein **all** HMM states corresponding to the leaves of pruned subtrees in the original tree are tied such that they share a single model, represented by the newly created leaves (see, e.g., *Waibel*, col. 6, lines 40-55). No additional or alternative details describing the merging of nodes is discussed in *Waibel*. As Applicants understand the reference, the **only** merging performed in *Waibel* is the merging of a **leaf node** of a pruned subtree into the new leaf node created in place of a **root node** of the pruned subtree which has received less than a predetermined amount of adaptation data. Accordingly, whether a **leaf node** of a subtree is to be merged in *Waibel* is based **solely** upon whether a **root node** of the leaf node **receives less than a predetermined amount** of adaptation data.

The Final Office Action does not allege that *Waibel* anticipates the currently claimed merging of at least one node with a parent node of the at least one node based on **whether the at least one node represents** a subset of a vocabulary, wherein the merging occurs **independent of whether a parent node represents** a subset of the vocabulary. Applicants respectfully submit that any receiving of “an amount of application data” by an HNN **root node** is not described in *Waibel* in sufficient detail to associate any such receiving with any characteristics of a **leaf node** of such a root node. By way of illustration, the receiving of less than a predetermined amount of adaptation data by a

root node in *Waibel* is not even disclosed as being determinative of an amount of adaptation data received by a particular one **leaf node** (e.g. among many leaf nodes) of the root node. Therefore, as Applicants understand the reference, *Waibel* **fails** to establish any connection between an amount of adaptation data received at an HNN **root node** and, for example, whether or not a particular **leaf node** of the root node (for example, an arbitrary one of multiple such leaf nodes) represents a subset of a vocabulary. More particularly, *Waibel* **fails** to disclose how a **root** node receiving less than a **predetermined amount** of adaptation data, in and of itself, **expressly or inherently** indicates that one particular leaf node of the root node represents a subset of a vocabulary which is used in a given task.

Furthermore, assuming *arguendo* that a root node in *Waibel* receiving less than a predetermined amount of adaptation data expressly or inherently determined **whether the root node represents** a subset of a vocabulary which is used in a given task, which Applicants do not agree, any merging of the **leaf** node in *Waibel* which results therefrom would necessarily **depend** on such a representation of a vocabulary subset **by the root node** – and would not be **independent** of it, as currently recited in the amended claims. Therefore, the reference fails to either expressly or inherently disclose at least one limitation of Applicants invention in as complete detail as set forth in the claims, as required by M.P.E.P. §2131.

For at least the foregoing reasons, *Waibel* fails to anticipate each of currently amended independent claims 1, 4, 7, 10, 15, and 20. In depending directly or indirectly from one of these independent claims, each of dependent claims 2, 3, 5, 6, 8, 9, 11-14, 16-19 and 21-23 incorporates at least one limitation not taught by *Waibel*. Therefore, Applicants request that the above 35 U.S.C. §102(e) rejection of claims 1-23 based on *Waibel* be withdrawn.

CONCLUSION

For at least the foregoing reasons, Applicants submit that the objections and rejections have been overcome. Therefore, claims 1-23 are in condition for allowance and such action is earnestly solicited. The Examiner is respectfully requested to contact the undersigned by telephone if such contact would further the examination of the present application. Please charge any shortages and credit any overcharges to our Deposit Account number 02-2666.

Respectfully submitted,
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Date: January 28, 2008

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